REMARKS

This paper responds to the Office Action dated June 24, 2010.

Claims 1-12 are amended, no claims are canceled, and no claims are added; as a result, claims 1-12 remain pending in this application.

No new subject matter has been added by the amendments to claims 1-12.

Independent claims 1, 9, 11, and 12 are amended generally as follow. It is added that the payload of the transport stream packet comprises "wherein the payload comprises at least a part of a program elementary stream" and that the sequence of transport stream packets has payloads carrying "one or more packet elementary streams comprising a PES packet payload, wherein the PES packet payload carries encoded data elements." Support for these amendments is found in the specification for example at paragraph [0050], where it is disclosed that each set of NAL units is carried in one program elementary steam (PES), which in turn is carried by the TS packets. Also in the specification for example at paragraph [0050] it is disclosed that the PES packet payload contains the NAL units ("Thereafter comes the PES packet payload, i.e. the NAL units").

Further, the amendment including "determining a type of one of the two subsequent units following the data indicating the boundary" has been added. Support for these amendments is found in the specification for example at paragraph [0057], where it is disclosed that the type of the NAL unit is determined.

In addition, the wording "for selected units" has been changed into "if the type corresponds to a predefined type". Support for these amendments is found in the specification for example at paragraph [0057], where it is disclosed that the type is checked for its correspondence to IDR, which is an example of a predetermined type.

The wording "selected unit in the sub-sequence." has been changed into "one of the two subsequent units in the sub-sequence." to reflect the other amendments.

In addition, the preambles of claims 1-12 have been amended, as described below, in part to better comport the claims to U.S. claiming style.

The Rejection of Claims Under § 112

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The 35 U.S.C. § 112, second paragraph rejection is respectfully traversed.

Specifically, the Office Action states:[1]

> Independent claims 1, 9, 11, and 12 each recite the limitation: "..monitoring the payloads of at least some of the transport stream packets in the sequence..." It is not clear from the context of the claim how many "some" of the packets refers to and therefore the term renders the claims indefinite.

While not necessarily agreeing with these statements in the Office Action as quoted above, each one of independent claims 1, 9, 11, and 12 are amended to delete the phrase "at least some of" from the language of the claim. By way of illustration, independent claim 1, as now amended, recites, "monitoring the payloads of the transport stream packets in the sequence . . . " Independent claims 9, 11, and 12, as now amended, including this same or similar language.

Support for these amendments to independent claims 1, 9, 11, and 12 is found for example, but not necessarily limited to, the specification of the application in paragraph [0055], where it is disclosed that "the scrambling unit monitors the TS packet payloads of the TS packets".

It is therefore submitted that independent claims 1, 9, 11, and 12, and claims 2-8 and 10 that depend from independent claims 1 and 9 respectively, all comply with the requirements of 35 U.S.C. § 112, second paragraph.

Reconsideration and withdrawal of the 35 U.S.C. § 112, second paragraph rejection, and allowance of claims 1-12 is respectfully requested.

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[1] *See* the Office Action on pages 2-3 under the heading "Claim Rejections – 35 USC § 112" in the second paragraph under item number 6.

The Rejection of Claims Under § 101

Claims 9-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The 35 U.S.C. § 101 rejection of claims 9-11 is respectfully traversed.

It is respectfully submitted that claims 9-11, at least as now amended, comply with the requirements of 35 U.S.C. § 101.

By way of illustration, independent claim 9 and dependent claim 10 that depends from independent claim 9, are amended to include that the system in each of these claims is a computer based system. Support for this amendment is found for example, but not necessarily limited to, paragraph [0011] of the specification, from which it is apparent that a computer is involved in the partially scrambling of the data.

In further illustration, independent claim 11 is amended by including that the storage medium is a non-transitory storage medium. Support for this amendment is found for example, but not necessarily limited to, paragraph [0032] of the specification, and in claim 12 itself, from which it is apparent that the storage medium is to be used in the computer, thus it is non-transitory.

It is therefore submitted that claims 9-11 each comply with the requirements of 35 U.S.C. § 101. Reconsideration and withdrawal of the 35 U.S.C. § 101 rejection, and allowance of claims 9-11 is respectfully requested.

The Rejection of Claims Under § 102

Claims 1-4 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Candelore (U.S. Publication No. 2003/0081776; hereinafter "Candelore"). The 35 U.S.C. § 102 rejection of claims 1-4 and 9-12 is respectfully traversed.

Claims 1-4 and 9-12 are not anticipated by Candelore because Candelore fails to disclose all of the subject matter included in any given one of claims 1-4 and 9-12. By way of illustration, independent claim 1, as now amended, recites:

> partially scrambling a data stream including transport
> stream packets, each transport stream packet having a header and a
> payload, wherein the payload comprises at least a part of a
> program elementary stream, wherein a sequence of transport
> stream packets has payloads carrying one or more packet
> elementary streams comprising a PES packet payload, wherein the
> PES packet payload carries encoded data elements, arranged in
> units, the method including:
>
> . . .
>
> monitoring the payloads the transport stream packets in the
> sequence for the presence of data indicating a boundary between
> two subsequent units;
> determining a type of one of the two subsequent units
> following the data indicating the boundary; and if the type
> corresponds to a predefined type, including at least one of the
> transport stream packets carrying data forming part of the one of
> the two subsequent units in the sub-sequence.

Thus, independent claim 1 includes that the payload of the transport stream packet comprises "at least a part of a program elementary stream" and that the sequence of transport stream packets has payloads carrying "one or more packet elementary streams comprising a PES packet payload, wherein the PES packet payload carries encoded data elements".

Further, independent claim 1 also includes "determining a type of one of the two subsequent units following the data indicating the boundary, and if the type corresponds to a predefined type, including at least one of the transport stream packets carrying data forming part of the one of the two subsequent units in the sub-sequence."

It is respectfully submitted that at least this subject matter as included in independent claim 1 is not disclosed in Candelore.

In contrast to the subject matter of independent claim 1, Candelore concerns an elementary stream partial encryption solution. In paragraphs [0080]-[0092] Candelore describes a critical packet encryption method is described, wherein packets are selected for encryption based upon their importance to the proper decoding of the audio and/or video of the program content (*See* Candelore at paragraph [0081]).

In Candelore, only critical packets are encrypted (*See* Candelore at paragraph [0084]). In Candelore, for the video and audio this can be accomplished by encrypting "start of frame"

transport stream packets containing PES headers and other headers. The "start of frame" packets are identified with the "packet unit start indicator" in the transport header (*See* Candelore at paragraph [0084]).

Thus, in Candelore the packets to be encrypted are found by analysing the content of the transport headers and/or PES headers.

Further, in Candelore transport steam packets containing a PES header are the preferred target for encryption (*See* Candelore at paragraph [0088]). These packets contain sequence headers, sequence extension headers, picture headers, quantization and other decode tables that also fall within the same packet (*See* Candelore at paragraph [0088]). Known decoders use the PES header to sync up to an elementary steam such as video and audio in real time. By encrypting the PES header, the decoding engine in an unauthorized set-top box cannot even get started (*See* Candelore at paragraph [0088]).

Thus, the packets to be encrypted in Candelore are found by analysing the content of the transport headers and/or PES headers. According to paragraph [0088] of Candelore, other critical or important packets or content elements may also be identified for encryption. For example MPEG intra-coded or I frame picture packets could be encrypted.

It is understood that in this latter scenario an MPEG packet containing e.g. an I-frame picture packet is encrypted and not the payload of the transport stream packets.

By contrast, the subject matter of independent claim 1 monitors the payloads of the transport stream packets for the presence of data indicating a boundary between two subsequent units and determines if the unit following the boundary is of a predetermined type. In other words, at the transport stream level the content of the NAL units is analysed, thereby bypassing the packet elementary stream (PES) level. If the determination is positive then the payload of the transport stream packet is scrambled. This subject matter of independent claim 1 is not disclosed by Candelore.

Still further, following the teaching of Candelore, PES headers would be analysed at the PES level. This is different from the subject matter of independent claim 1, wherein no analysis at the PES level is performed.

Even further, Candelore also describes that the analysis of MPEG packets for e.g. I frames, in which case an MPEG packet can be encrypted. This is different from the subject

matter of independent claim 1 because in this case it is not the transport stream packet payload that will be scrambled. Instead, scrambling takes place at the level of the MPEG packets, i.e. two levels above the transport stream level (the MPEG level is on top of the PES level, which in turn is on top of the transport stream level).

For at least the reasons stated above, Candelore fails to disclose all of the subject matter included in independent claim 1, and therefore independent claim 1 is not anticipated by Candelore.

For reason analogous to these stated above with respect to independent claim 1, Candelore fails to disclose all of the subject matter included in any given one of independent claims 9, 11, and 12, or in dependent claims 2-4, and 10, which depend from independent claims 1 and 9 respectively.

Therefore, claims 2-4 and 9-12 are also not anticipated by Candelore.

Reconsideration and withdrawal of the 35 U.S.C. § 102 rejection, and allowance of claims 1-4 and 9-12 is respectfully requested.

The Rejection of Claims Under § 103

Claims 5 and 6.

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Candelore and Unger et al. (International Application No. PCT/US02/40050, hereinafter "Unger").

The rejection of claims 5 and 6 is respectfully traversed.

Claims 5 and 6 are not obvious in view of the proposed combination of Candelore and Unger[2] because the proposed combination of Candelore and Unger fails to disclose or suggest all of the subject matter included in either one of claims 5 or 6. Claims 5 and 6 depend from independent claim 1, and so include all of the subject matter included in independent claim 1. For at least the reasons stated above, Candelore fails to disclose or suggest all of the subject matter included in independent claim 1, and so fails to disclose or suggest all of the subject matter included in claims 5 and 6.

The addition of Unger fails to remedy these deficiencies in Candelore. Therefore, the proposed combination of Candelore and Unger fails to disclose or suggest all of the subject

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[2] It is not admitted or agreed that any proposed combination of Candelore and Unger is possible.

matter included in either one of claims 5 and 6. Thus, claims 5 and 6 are not obvious in view of the proposed combination of Candelore and Unger.

Reconsideration and withdrawal of the 35 U.S.C. 103 rejection, and allowance of claims 5 and 6 is respectfully requested.

Claims 7, 8, and 10.

Claims 7, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Candelore and Burazerovic et al. (International Application No. PCT/IB2003/005965, hereinafter "Burazerovic").

The rejection of claims 7, 8, and 10 is respectfully traversed.

Claims 7, 8, and 10 are not obvious in view of the proposed combination of Candelore and Burazerovic [3] because the proposed combination of Candelore and Burazerovic fails to disclose or suggest all of the subject matter included in any given one of claims 7, 8, and 10.

Claims 7 and 8 depend from independent claim 1, and so include all of the subject matter included in independent claim 1. Claim 10 depends from independent claim 9, and so includes all of the subject matter included in independent claim 9. For at least the reasons stated above, Candelore fails to disclose or suggest all of the subject matter included in independent claim 1, and fails to disclose or suggest all of the subject matter included in independent claim 9. Thus, Candelore also fails to disclose or suggest all of the subject matter included in any given one of claims 7, 8, and 10.

The addition of Burazerovic fails to remedy these deficiencies in Candelore. Therefore, the proposed combination of Candelore and Burazerovic fails to disclose or suggest all of the subject matter included in any given one of claims 7, 8 and 10. Thus, claims 7, 8, and 10 are not obvious in view of the proposed combination of Candelore and Burazerovic.

Reconsideration and withdrawal of the 35 U.S.C. 103 rejection, and allowance of claims 7, 8, and 10 is respectfully requested.

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[3] It is not admitted or agreed that any proposed combination of Candelore and Burazerovic is possible.

AMENDMENT AND RESPONSE UNDER 37 C.F.R § 1.111
Serial Number:10/582,762
Filing Date: June 12, 2006
Title: METHOD OF PARTIALLY SCRAMBLING A DATA STREAM

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Dkt: 2069.046US1

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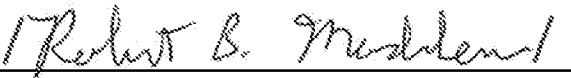
CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned at (612) 371-2132 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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